Crew Escape System

Talley Industries of Arizona, Mesa, Arizona is a recognized leader in rocket propellant research, noted particularly for a number of advances in the application of propellants to aircrew escape systems. Among the company's major product lines are rocket motors and gas generators.

At lower left is an ejection seat and its components, including the rocket motors that provide the ejection thrust. The photo at right is a rear view of the seat showing the installation of the rocket motors and the parachute canopy.

To calculate the mass properties of rocket motors and gas generators for escape systems, Talley engineers use a computer program developed by Langley Research Center. Called MASPROP (Determining Mass Properties of a Rigid Structure), the program performs calculations needed to determine the center of gravity for a particular thruster, a determination essential to accurate positioning of the motor or generator in the aircrew escape system. Talley's use of MASPROP replaced hand calculations that sometimes involved several weeks of effort; the computer program reduces the time for each calculation to four hours or less.

MASPROP is one of some 1,300 computer programs available from the Computer Software Management and Information Center, which distributes to business and industry software developed in the course of NASA projects or those of other technology-generating agencies of the government.